DRAFT Meeting Minutes

Public Body Procurement Workgroup

Meeting # 6

Monday, November 28, 2022, 9:30 a.m.
Conference Rooms C, D, and E
James Monroe Building
101 N 14th St, Richmond, Virginia 23219

http://dgs.virginia.gov/dgs/directors-office/procurement-workgroup/

The Public Body Procurement Workgroup (the Workgroup) met in-person in conference rooms C, D, and E in the James Monroe Building in Richmond, Virginia, with Sandra Gill, Deputy Director of the Department of General Services (DGS), presiding. The meeting began with remarks from Ms. Gill, followed by public comment, presentations, and discussion. Materials presented at the meeting are available through the Workgroup's website.

Workgroup members and representatives present at the meeting included Sandra Gill (Department of General Services), Lisa Pride (Virginia Department of Transportation), John McHugh (Virginia Association of State Colleges and University Purchasing Professionals), Patricia Innocenti (Virginia Association of Governmental Procurement), Leslie Haley (Office of the Attorney General), Mike Tweedy (Senate Finance and Appropriations Committee), and Joanne Frye (Division of Legislative Services).

Willis Morris with the Department of Small Business and Supplier Diversity, Joshua Heslinga with the Virginia Information Technologies Agency, Jason Saunders with the Department of Planning and Budget, and Andrea Peeks with the House Appropriations Committee were absent.

I. Call to Order; Remarks by Chair

Sandra Gill, Deputy Director
Department of General Services

Ms. Gill called the meeting to order and welcomed the Workgroup members to the Workgroup's sixth meeting of the year.

II. Approval of Meeting Minutes from the September 19, 2022 Workgroup Meeting

Mr. McHugh made a motion to approve the meeting minutes from the September 19, 2022 meeting of the Workgroup. The motion was seconded by Ms. Pride and unanimously approved by the Workgroup.

III. Status of the Final Reports for the Workgroup's Studies of SB 550 and SB 575

Ms. Gill shared with the Workgroup that the final reports for the Workgroup's studies of SB 550 and SB 575 have been finalized and submitted to the General Assembly. She noted that they are available on the Workgroup's website and through the portal on the General Assembly's Legislative Information System website.

IV. Presentation on SB 272

The Honorable Ghazala F. Hashmi
Senate of Virginia

Senator Hashmi began her remarks by thanking the Workgroup for the opportunity to present SB 272 to the Workgroup. She explained that the bill has two main purposes. The first purpose is environmental – to specifically address the issue of CO_2 emissions that result from cement production. The second purpose is to put Virginia in alignment with the efforts that the cement and concrete industry are already taking to reduce CO_2 emissions resulting from cement and concrete production and to establish Virginia as a leader in this area.

Senator Hashmi explained that the production of cement, which is used to make concrete, requires extreme heat, and stated that such heat is obtained by burning powdered coal or natural gas. She stressed that the chemical reaction resulting from burning the coal or natural gas releases CO_2. She emphasized the profound environmental impact of the production of cement by citing statistics showing that if cement was a country, it would rank third in line for global CO_2 emissions just behind the United States and China. She emphasized that this impact is going to grow overtime as the Commonwealth increases it use of cement and concrete as it seeks to improve its infrastructure, particularly roads and bridges.

With this in mind, Senator Hashmi explained that her original goal for SB 272 and now for the Workgroup's study of SB 272 is for the Workgroup to review the climate impact of cement production and investigate potential incentives that may be offered to the cement and concrete industry to reduce overall CO_2 emissions from the production of cement and concrete that is used in Commonwealth-funded projects. She concluded her remarks by noting her desire that all stakeholders be given the opportunity to share their insights with the Workgroup.

V. Public Comment

The first stakeholder to comment was Eric Koehler, the Director of Quality at Titan America. Mr. Koehler explained that Titan America operates in Virginia as Titan Virginia Ready-Mix and Roanoke Cement Company. He shared that he is a part of Titan America's decarbonization team and they are increasingly working to find ways to decarbonize cement and concrete in all stages of its production – from the raw material

extraction through the manufacturing process – and in its eventual delivery to the end user.

Mr. Koehler then described several efforts that Titan America has taken or is currently taking to reduce its carbon emissions. He shared that Titan America has committed to net zero concrete by 2050, as validated by the Science Based Targets initiative. He explained that in its efforts to meet that goal, Titan America will be required to meet interim objectives. Those interim objectives include achieving a 35% reduction target for their scope 1 emissions and a 45% reduction target for their scope 2 emissions by 2030. Given such goal and interim objectives, he stated Titan America is well on its way towards reducing its carbon emissions. Additionally, he shared that Titan America recently announced that they have fully converted their cement production to Type IL cement, also known as Portland Limestone Cement, which is about 10 percent lower in CO_2 than traditional Type I and Type II cement. He shared that Titan American first began manufacturing Tyle IL in 2015, and that they appreciated that Virginia's Department of Transportation (VDOT) was one of the first state departments of transportation to adopt Tyle IL cement. He expressed Titan America's desire to accelerate the process for getting innovative new materials into the VDOT's spec mix designs so that progress in reducing carbon emissions from the production of concrete can be achieved more quickly. Further, he noted that Titan America is working on researching carbon capture and utilization.

Mr. Koehler concluded his remarks by thanking the Workgroup for the opportunity to speak. He expressed Titan America's excitement about the study and about the future of concrete in Virginia, which he emphasized brings innovation, economic development, and other benefits to taxpayers.

The second stakeholder to comment was Chris Clow with Holcim Ready Mix Concrete in Virginia. He shared that Holcim is a Swiss-based company and is the world's leader in cement and concrete aggregate production. He stressed that carbon reduction is a significant challenge and goal for their entire industry. He stated that his company appreciates the importance that states across the country are placing on this initiative because it is very important that the right solution is reached. He stressed the importance of allowing all stakeholders to have an opportunity to participate in the Workgroup's study and thanked the Workgroup for the opportunity to speak at today's meeting.

The third and final stakeholder to comment was Nikhil Neelakantan with OpenAir. He explained that OpenAir is a distributed, volunteer-led network that aims to creatively capitalize on capitalize on opportunities to advance, accelerate, and coinvent CO_2 removal in the real world through collaborative advocacy and research on carbon emissions. He noted that OpenAir does not represent any particular industry group. He shared that OpenAir has been involved in highlighting the role that the cement and concrete industry has in creating a net zero future and shared that OpenAir has been involved with several pieces of legislation on this topic in numerous states and localities.

Mr. Neelakantan informed the Workgroup that there are a number of well-established and innovation-based pathways to reducing the carbon footprint of concrete. He stressed to

the Workgroup that the public sector has a critical role to play in leading the transition to lower carbon concrete because state and local governments together are the biggest purchasers of concrete in any given state. He emphasized that in the last two years numerous state and localities have focused on the power of public sector procurement to drive change and listed several examples. First, he shared that in 2020, Colorado passed its "Buy Clean" law, which includes concrete among several major construction materials that must meet emissions thresholds for public construction projects. Additionally, he noted that Colorado has binding targets for cement emissions reductions that will be phased in over the next three decades. He also shared that over the summer, the New Jersey Senate unanimously passed the Embodied Carbon Concrete Leadership Act (the Act) with significant bipartisan support, and that the Act recently passed the state assembly's environmental conservation committee and is scheduled for a full vote in the chamber next month. He emphasized that the Act is also supported by New Jersey's governor. Further, he shared that in 2022 New York passed its own version of the Act and implemented the first low carbon concrete specifications for public projects. Additionally, he shared that New York also introduced new carbon reduction targets and possible incentives as part of a new executive order, and also described low carbon concrete standards put in place by New York City and the New York Port Authority. Further, he highlighted for the Workgroup that cities such as Austin, Portland, and Honolulu have implemented carbon-based procurement standards of prioritization for concrete, and that Illinois, Massachusetts, Washington, and California have introduced similar legislation in the past year. He stressed that the federal government, under the Inflation Reduction Act, will mobilize significant funding that will flow to states in the coming months and years for low carbon concrete research and incentives, and that states that put in place clear plans and commitments to lower carbon in concrete will be best positioned to capture those resources.

Moving on to discuss international efforts at concrete decarbonization, Mr. Neelakantan pointed the Workgroup to the CO_2 Performance Ladder from the Netherlands. He explained that the Performance Ladder was initiated in 2009 and is a green public procurement instrument that certifies companies' climate action. In return for companies making commitments to reduce emissions, they receive an award advantage. He noted that the Performance Ladder serves as both a CO_2 management system by guiding the companies' climate action and as a public policy instrument through which the government can incentivize climate mitigation.

In concluding his remarks, Mr. Neelakantan stressed that action on concrete decarbonization must not come at the expense of safety or quality or overly burden taxpayers. He emphasized, however, that many existing and emerging decarbonization methods and practices are economically competitive and deliver superior quality and durability compared to conventional methods and practices.

VI. Presentation on DEQ's Role in Regulating Cement and Concrete Manufacturers in Virginia

Thomas Ballou, Air Data Analysis & Planning Manager

Virginia Department of Environmental Quality

Thomas Ballou, Air Data Analysis & Planning Manager at the Virginia Department of Environmental Quality (DEQ) gave a presentation to the Workgroup on DEQ's role in regulating cement and concrete manufacturers in Virginia. He shared that he has been involved in some of the regulatory efforts at DEQ to reduce CO_2 and also that his group works on emissions inventories, which estimate the level of emissions coming from facilities and manufacturers like cement and concrete producers.

As background, Mr. Ballou explained that the emissions that result from the cement and concrete sector are twofold – they come from the actual process of producing cement *and* from the combustion of fossil fuels (which is required to generate the extreme heat that is needed to produce clinker, a primary ingredient in cement). He noted that nationally, about 66 million metric tons of CO_2 are produced by the approximately 100 cement manufacturers in the country, and that such 66 million metric tons of CO_2 is about 10 percent of the total industrial emission of greenhouse gases (GHGs) in the country. He shared that in addition to emitting GHGs, cement and concrete manufacturers are also a fairly significant source of criteria pollutants, which are emissions identified in and regulated by the Clean Air Act. He highlighted that the primary criteria pollutants that are emitted by cement and concrete manufactures are sulfur dioxide (SO_2) and nitrogen oxides (NO_x) and noted that both a product of the combustion of fossil fuels.

Mr. Ballou shared with the Workgroup that in Virginia specifically, DEQ regulates approximately 224 cement and/or concrete facilities. He stressed that DEQ regulates them only for criteria pollutants. They do not currently regulate them for CO_2. He noted that DEQ has generally only ventured into regulating CO_2 for two sectors – the power sector and motor vehicles. He emphasized that those two sectors are the main sources of CO_2 both in Virginia and in the country. He shared that there is one large cement manufacturer in Virginia – Roanoke Cement Company and noted that in 2021 Roanoke Cement Company emitted just under a million tons of CO_2 and approximately 2,600 tons of both SO_2 and NO_x. He explained that such criteria pollutant emissions are fairly significant, and that he would qualify Roanoke Cement Company as a substantially regulated source of criteria pollutants. Mr. Ballou explained that the 223 remaining cement and/or concrete facilities that are regulated by DEQ are mostly concrete batching and/or handling facilities and they are generally smaller operations. He noted that the main pollutants of concern at such facilities are particulate matter, and such facilities do not produce much CO_2.

Mr. Ballou then showed the Workgroup a pie chart illustrating the latest GHG inventory assembled by DEQ to provide the Workgroup with a general idea of the major sectors in GHG emissions. The chart showed that in total in 2018 there was approximately 140 million metric tons of CO_2 emitted in Virginia. He pointed out that the largest sector for GHG emissions is transportation, followed by the power sector. He highlighted that the industrial sector (which includes cement and concrete production) accounted for 10 percent of the total GHG emissions, and that the cement and concrete industry,

specifically, produced just under a million metric tons of CO_2, which he categorized as a fairly small component of Virginia's GHG inventory.

Mr. Ballou then gave the Workgroup a brief overview of some of the control technologies that are being developed and/or promoted as possible solutions for reducing carbon emissions resulting from the cement industry. He discussed carbon capture and sequestration or utilization as a potential solution, but shared that this potential solution is most likely a longer-term goal and can also be somewhat technologically and economically challenging. Further, he mentioned that cement manufacturers can switch to cleaner burning fuels to lower the amount of CO_2 that is emitted during the combustion process. Finally, he mentioned that cement manufacturers can use different raw materials, which can reduce CO_2 emissions during the production process.

VII. Presentation on VDOT's Use of Concrete for VDOT Projects

Charles A. Babish, State Materials Engineer
Virginia Department of Transportation

Andy Babish, State Materials Engineer with VDOT, spoke to the Workgroup about VDOT's use of concrete and it current practices related to carbon footprint reduction. He shared that according to a recent study done by the Balmoral Group for VDOT, it is estimated that VDOT's consumption of concrete in Virginia for the calendar year 2022 is approximately 525,000 cubic yards. He explained that such amount is approximately six percent of the total estimated concrete production in Virginia.

Mr. Babish then discussed some current efforts VDOT is taking to reduce its carbon footprint. He shared that VDOT allows the use of waste-stream byproducts, commonly referred to as supplementary cementitious materials (SCMs), in their concrete mixes as an alternative to portland cement. He cited examples of SCMs, including fly ash, which is a byproduct of coal-fire and coal-generated production facilities; slag cement, which is a byproduct of steel production; and silica fume, which is a byproduct of metal production. He explained that these CSMs have a small amount of cementing materials in them, and they react with cement to produce compounds with cementitious properties. As such, CSMs can replace some portland cement.

Additionally, Mr. Babish shared that VDOT also allows Type IL cement to be used in their mixes. He explained that Type IL cement is a newer cement in the marketplace that has become more commonplace in concrete production over the last three to four years. He noted that Type IL cement has more limestone content than the more commonly used "Type I" or "Type II" cements and takes less energy to manufacture, thus reducing its carbon footprint by about 10% (according to the Portland Cement Association).

Further, Mr. Babish noted that VDOT has been specifying maximum cementitious material contents for most of their structural concrete, especially for bridge decks, to prevent and mitigate shrinkage cracking. Doing so, he explained, promotes longevity and

durability in the structural concrete and reduces carbon footprint at construction and through the life of the structures.

Finally, Mr. Babish shared that VDOT has been looking at some carbon sequestration technologies and methods with the help of the Virginia Transportation Research Council and the industry as additional means of reducing VDOT's carbon footprint. He noted that they have been evaluating such technologies and methods for a few years to see how they may help with VDOT's long-term carbon reduction efforts.

VIII. Presentation on DGS' Use of Concrete for DGS Projects

W. Michael Coppa, Director of the Division of Engineering and Buildings
Virginia Department of General Services

Mike Coppa, the Director of the Division of Engineering and Buildings (DEB) for DGS, spoke to the Workgroup about DGS' use of concrete. Based upon the amount of money spent on construction annually in Virginia, Mr. Coppa shared that he estimates that DGS uses approximately 40,000 cubic yards of concrete per year, which is about one-half of a percent of the concrete used in Virginia per year.

Mr. Coppa noted that DEB writes the Construction and Professional Services Manual (CPSM), which agencies throughout the Commonwealth must follow for their construction. He explained that the CPSM looks for a 50-year lifecycle in buildings and simply requires the concrete mixes used for buildings to include at least 50 percent portland cement. They rely upon the project's structural engineers to design the specific concrete mixes within the parameters laid out in the CPSM, and DEB then looks at the appropriateness of such mixes based upon factors such as the need to reduce the heat of vibration or the need to increase strength.

Mr. Coppa summarized his remarks by reiterating that DGS uses a very small amount of concrete in its projects, the projects' architects and engineers are the ones to design the specific concrete mixes, and the CPSM looks for a long lifecycle for the Commonwealth's buildings.

IX. Discussion

Ms. Gill asked the Workgroup if they would like to engage in any discussion on the presentations and public comment received by the Workgroup thus far. Ms. Innocenti asked for clarification as to why the Workgroup is studying SB 272 given that the substitute version of SB 272 does not specifically request the Workgroup to undertake the study. Ms. Gill explained that SB 272 was not passed by the General Assembly during the 2022 Regular Session but was instead tabled in the House Committee on Agriculture, Chesapeake and Natural Resources with the committee's chairmen expressing his intent to ask VDOT and DGS to study the bill. She shared that over the summer, Delegate Leftwich sent a letter to DGS asking DGS to initiate a study on SB 272 and review ways to continue to reduce carbon emissions in concrete and cement without sacrificing the

integrity of the product and cost competitiveness. She noted that a copy of the letter from Delegate Leftwich was included in the meeting materials for today's meeting. She shared that for today's meeting, she called the Workgroup together to hear from Senator Hashmi, stakeholders, DEQ as the relevant Virginia regulatory agency for air emissions, and VDOT and DGS as the primary state agency users of concrete in Virginia to give presentations to the Workgroup and assist it with assessing the climate impact of cement and concrete and considering possible recommendations for reducing the climate impact of cement and concrete used on Commonwealth projects.

X. Public Comment

There was no further public comment.

XI. Adjournment

Ms. Gill adjourned the meeting at 10:13 a.m. and noted that the Workgroup's staff will reach out to the Workgroup's members to schedule the next meeting. She shared that at the next meeting the Workgroup will hear additional public comment and begin discussing potential recommendations.

For more information, see the Workgroup's website or contact that Workgroup's staff at pwg@dgs.virginia.gov.
